

Market Services Stakeholder Session

Metropolitan Centre, Calgary

Tuesday, October 12, 2010

Agenda



Welcome, Introductions and Overview

Miranda Erickson

Intertie Framework Recommendation Paper

Darren McCrank

Intertie Restoration Recommendation Paper

Kris Aksomitis

* * * *Break* * * *

Short-term Wind Integration Recommendation Paper

Kris Aksomitis

Outage Coordination Discussion Paper

Ron Smith

Q&A and Wrap-up

Miranda Erickson

Intertie Framework Recommendation Paper Update

Darren McCrank

October 12, 2010

- Purpose of this session
 - Review highlights of Recommendation Paper
 - Outline next steps
 - Opportunity for feedback / questions

Questions reviewed within framework

1. How should inerties be dispatched in real-time to enable priced offers/bids?
2. Should there be transmission rights to available transfer capability (ATC) on the inerties?
3. Should there be new transmission products on the inerties?
4. Should pro-rata be used to allocate ATC instead of last in, first out (LIFO) as tie breaker?

Question #1

- How should interties be dispatched in real-time to enable priced offers/bids? Options reviewed included:
 - Dynamic scheduling
 - Intra-hour scheduling
 - Dispatch up/down service
- Recommendation #1
 - Dynamic scheduling
 - Most efficient and timely of the options given the WECC dynamic scheduling system (DSS) project

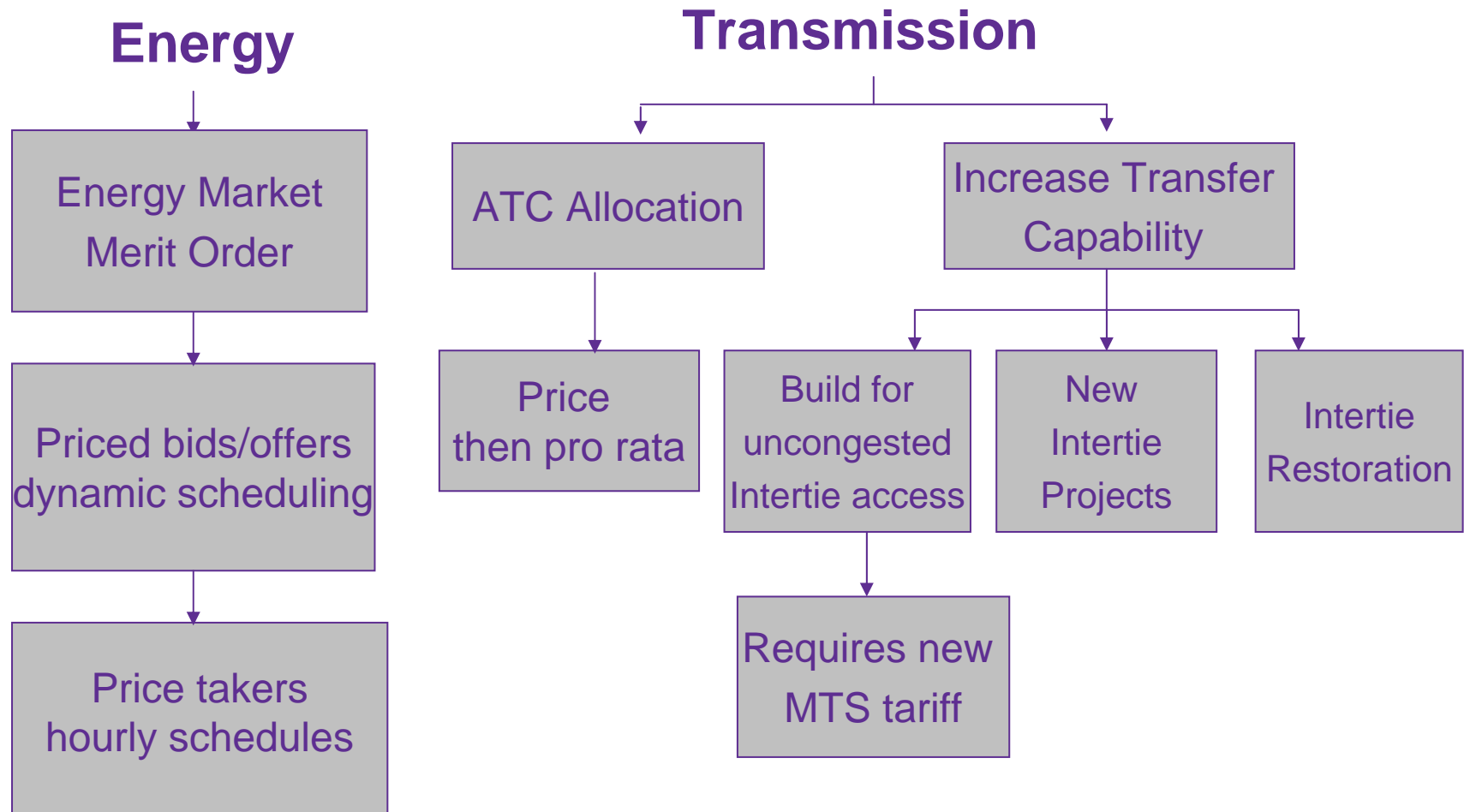
- Should there be transmission rights to ATC on the interties?
 - AB policy is that there are no transmission rights
 - However, there is an obligation to ensure system access service to inject/withdraw at the border
 - This implies applying the policy and obligation to build for uncongested access on the interties to the path rating
 - Supported by T-Reg section 15&16, EUA section 17 (c)
- Recommendation #2
 - Plan the system to ensure each intertie can transfer up to its path rating simultaneously

- Should there be new products developed on the interties?
 - Options reviewed included:
 - Firm import/export system access service
 - Real time and long term auctions to ATC products
 - Merchant transmission system access service
- Recommendation #3
 - Add merchant transmission system access service (MTS) to the tariff, offered to the merchant transmission asset owner, that appropriately reflects system access service to inject/withdraw at the border
 - Import/export opportunity service (IOS/XOS) offered on merchant intertie as on the existing interties today with equal priority
 - MTS contains refundable system contribution payment, while IOS/XOS contains loss factor charge

Question #4

- Should pro-rata be used to allocate ATC instead of LIFO to break tie of same priced offers/bids?
 - Rule required when there is congestion
 - Options reviewed included:
 - Pro-rata between lines or between scheduled participants
 - LIFO curtailments after xx:45 or “first come, first serve” up to limit
- Recommendation #4
 - Develop an ATC allocation rule that arbitrates by energy price (when possible) and then pro-rata between remaining scheduled participants

Intertie Framework Recommendation



- Consult on recommendation paper (Q4 – 2010)
- Implement Intertie Framework (2011)
 - Implement dynamic scheduling
 - ATC Allocation Rule development
 - MTS development and filings within Tariff
 - Plan required transmission reinforcements
 - IT system upgrades as required

Questions?

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Intertie Restoration Recommendation Paper Update

Kris Aksomitis

October 12, 2010

- Purpose of this session
 - Review highlights of Recommendation Paper
 - Outline next steps
 - Opportunity for feedback / questions

- Recommendation Paper released October 7, 2010
- Released at the same time as the overall Intertie Framework Recommendation Paper
 - Intertie restoration initiatives fit within the context of the overall intertie framework
- Intertie Restoration paper addresses both import and export restoration
 - Both initiatives will be pursued by the AESO
- Load Shed Service Imports (LSSi) is the first step in restoring import capacity
 - It is expected other import initiatives will be pursued

- Intertie Restoration services will be treated as a system service with costs allocated to load
 - Consistent with government transmission policy
 - Treats imports and exports similarly to internal loads and generators
- LSSi or any other import/export restoration service will not confer transmission rights
- Infrastructure solutions for further import restoration will also be examined

- LSSi is step 1
- Potential for infrastructure solutions will be examined
- Use of existing inerties as part of a RAS to restore import capacity also being explored
- AESO plans to develop a process to solicit proposals for import restoration
 - Infrastructure based
 - Services based
 - Technology (batteries)
 - Others

Recommended LSSi Product Design

- Procurement to be done through term contracts (1-3 years)
- Three part price mechanism recommended
- Availability payment is paid only when service is available
 - No payment when the load is not available due to reduced consumption and/or unwillingness to be armed
- Arming payment is paid when the service is dispatched on to support import flows
 - Indexed to pool price
 - Once armed, the service is firm for the hour to support import schedule

- Dispatch tool being developed
- Changes required to OPP 312
 - Arm and disarm duty for the system controller
 - Update import capability (Revised ATC table)
 - AESO will initiate consultation process on this change in the near future
- Request for Expressions of Interest to be issued in late October or early November
- LSSi targeted to be in place and operational for Q2 2011

- AESO agrees with previous stakeholder feedback that export restoration should look at more than GRAS
 - The AESO has formed an export ATC workgroup that has identified numerous options to restore export ATC
 - A range of RAS options, including GRAS and using interconnections as RAS
 - Transmission investment options, such as DC converters between the Alberta and BC systems

AESO is also working on several initiatives internally

- Integrate the wind forecast into the ATC calculation tool
- Audit the ATC calculation tool

- AESO plans to develop a process to solicit proposals for export restoration
 - Infrastructure based
 - Services based
 - Technology (batteries)
 - Others

- Continue to develop the LSSi product with the plan to have LSSi in place for Q2 2011
- Study the potential value and technical feasibility of infrastructure solutions such as a back-to-back AC/DC/AC converter station with the BC system for both import and export restoration
- Issue a request for proposals for both import and export restoration. This will be open to proposals that incorporate transmission, generation, storage technologies or any combination of tools that result in increased import or export ATC.

Feedback on Recommendation Paper



- Stakeholder comments on Recommendation Paper due October 22, 2010

Questions?

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Wind Integration Recommendation Paper Update

Kris Aksomitis

October 12, 2010

- Purpose of this session
 - Review highlights of Recommendation Paper
 - Outline next steps
 - Opportunity for feedback / questions

- Recommendation Paper posted September 28, 2010
- Key goals for the phase 1 integration plan are:
 - Use existing tools to speed implementation
 - Simple, implementable and effective management of wind
 - Bridging tools while phase 2 wind integration plan is developed
- Three key recommendations are outlined in the paper
 - Use of Energy Market Merit Order
 - Use of Standby Contingency Reserve
 - Use of Wind Power Management

- Three tools can be implemented for use by 2011:
 1. Dispatch the Energy Market Merit Order (EMMO) to balance supply and demand on the basis that dispatches are expected to be required to balance energy needs, rather than ramp rate requirements
 2. When wind power ramps down more rapidly than can be handled via EMMO per point 1, dispatch available contingency reserve to produce energy in order to replace the lost wind power
 3. When wind power ramps up more rapidly than can be handled via EMMO per point 1, utilize Wind Power Management (WPM) to control wind ramp up events

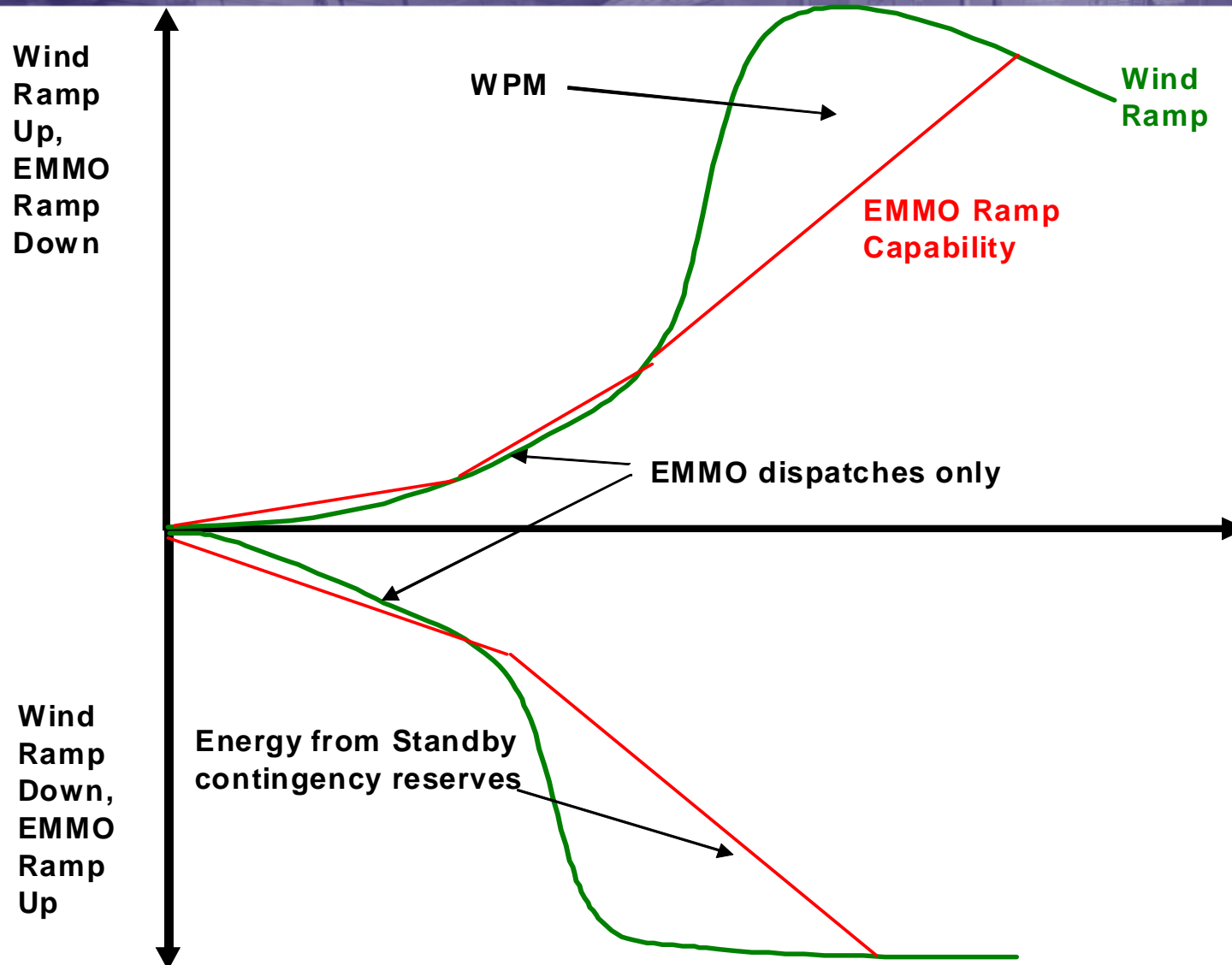
- Recommendation is to use EMMO as the first tool to handle wind power changes
- Should not rely on over dispatching EMMO prior to other tools
 - Fairness and efficiency issues
- New System Controller tool will help determine available ramp rate
 - Available ramp rate can be used to determine need for WPM and extra Operating Reserve

- Incremental regulating reserve not recommended in the integration plan
 - Fairness and efficiency issues
- Standby contingency reserve is recommended for wind ramp down events
 - Activate standby reserve when there is a risk wind will ramp down too quickly
 - Activation from Standby must occur prior to the event
 - Requires simple activation protocol to guide decision making
- Direct reserve for energy when required
 - Based on actual wind ramp down condition in excess of EMMO capability

- Wind Power Management used to manage wind ramp up events
- Tool to calculate and distribute limits to individual facilities
- Recommendation is to use pro rata distribution
 - Potential MW not likely feasible in short term
 - Market solution also difficult to implement in short term
- Requires guidelines for invoking WPM
 - Should not be used to manage system events where wind is not a factor, i.e. intertie schedules
 - Requires a simple / implementable rule to be in place for early 2011

- Brings the wind forecast from WEPROG to the systems that currently use persistence forecast of wind
- Project is currently underway
 - Integration of initial forecast (high level weather data) into all systems Q2 2011
 - Dependence of Wind Power Forecast Phase II Project
- Data from individual wind farms expected to become available throughout 2011
 - Incremental data expected to improve forecast accuracy

Wind Integration Schematic



- Stakeholder feedback on recommendation paper due October 15, 2010
- Continue to integrate the wind power forecast into AESO systems
- Develop any tools, rules and practices necessary to implement recommendations
 - Continue to develop tool to calculate and disseminate wind power limits
 - Initiate consultation on any required rule changes
- Release Phase 2 Discussion Paper

Questions?

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Generator and Transmission Outages Communication Review

Ron Smith

October 12, 2010

- Consult with market participants on the effectiveness of AESO generator and transmission outages communication practices
- Develop a consistent and transparent approach for the communication of such outages
- Identify possible improvements to current AESO processes

- Stakeholders are asking for greater transparency
- Expected increase in material projects will lead to this becoming a more persistent need
- Current AESO approach has become more situation specific and requires input from stakeholders on its effectiveness

Not in Scope

- AESO legislated responsibilities
- AESO processes regarding the approval or disapproval of outages
- Additional technical studies associated with management of the Alberta Interconnected Electric System

Specific Requirements

- Market Participants – require access to outage information in a fair, efficient and openly competitive (FEOC) manner
- AESO - balance legislated/ISO requirements with needs of market participants

- A variety of tools and processes exist
 - ETS Reports
 - AESO website posting
 - Transmission outage approval process
 - AESO Commercially Sensitive Data Policy
- Material projects have more comprehensive disclosure

- Report Examples:
 - Generator Outages
 - Transmission Outages
 - Intertie Capacity
 - Supply Demand Charts

Keephills 3/Edmonton De-bottlenecking Projects

- Comprehensive working example
- Significant coordination required over a two year period
- AESO communication approach:
 - Dedicated webpage
 - OPP 517
 - SLDs

Ideal State?

- Market participants benefit from a consistent and transparent communication approach
 - Attributes:
 - Timely
 - Appropriately comprehensive
 - Flexible and innovative
- AESO's overarching need is to balance reliable operations with effective communications

Stakeholder Feedback Required

- Is the current AESO approach working?
- Is there a better way?
- Open ended consultation approach

- Discussion Paper will be issued in Fall 2010
- AESO will work with stakeholders to identify the options available for effective outage communication
- Recommendation Paper will follow
- ISO rules, information documents and process changes may be required

Questions?

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Questions?